

REMARKS/ARGUMENTS

Claims 16-29 and 31-38 are pending. Claims 16-29 and 31-38 were rejected. By virtue of this response, claim 33 has been cancelled and claims 16, 18, 25, 32, and 34 have been amended. Accordingly, claims 16-29, 31-32, and 34-38 are currently under consideration.

The amendments to the claims are supported, for example, in paragraphs [0015], [0026], [0028], and [0032] of the specification.

With respect to all amendments and canceled claims, Applicant has not dedicated or abandoned any unclaimed subject matter and, moreover, has not acquiesced to any rejections and/or objections made by the Office. Applicant expressly reserves the right to pursue prosecution of any presently excluded claim embodiments in future continuations, continuations-in-part, and/or divisional applications.

Interview Summary

Applicant would like to thank Examiner Basichas for extending the courteously-conducted telephone interview on April 27, 2010. The discussion regarding the claims and cited references was very helpful. Applicant has endeavored to respond to the points raised by the Examiner in the response that follows.

Information Disclosure Statement

A Supplemental Information Disclosure Statement accompanies this response. Applicant would appreciate the Examiner initialing the Form PTO/SB08A/B, indicating that the references listed therein have been considered and made of record in this case.

Double Patenting Rejection

Claims 16-29 and 31-38 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 18-33 of copending Application No. 10/563,171. As discussed during the interview, Applicant does not believe that the claims are obvious in view of the claims of copending application Serial No. 10/563,171. Applicant consequently respectfully requests that the rejection be withdrawn.

Claim Rejections under 35 U.S.C. §103

Claims 16, 19-23, 25, 29, and 31-38 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Sick (U.S. Patent No. 4,820,033) in view of Funger (U.S. Patent No. 6,543,441). Applicant respectfully traverses this rejection.

References that do not teach all elements of the claimed invention in the arrangement specified in the claim cannot render the invention obvious. Sick in view of Funger does not teach or suggest all of the elements in the arrangement as presently claimed.

Neither Sick nor Funger, alone or in combination, teach or suggest a carrier structure which contains a reflector, a separate platform which supports the reflector, at least one curved transverse frame member to which the platform is secured, a spine, and a space frame which contains struts that connect opposite ends of the curved transverse member to the spine, for instance. The claimed invention is therefore not obvious in view of the references.

The Office Action states that Sick discloses a carrier structure having a platform 11 for supporting a reflector element 15. In the interview, the Examiner stated that element 11 of Sick, which is disclosed as “clamping section supports . . . which extend parallel to one another” may be interpreted as a platform when the term “platform” is given its broadest reasonable interpretation. Alternatively, the Examiner stated that element 11 of Sick could be interpreted as a platform in combination with the mirrors 15, with the “mirror” as a shiny surface on one side of the “platform” and the body of the mirror forming part of the platform.

Applicants respectfully disagree with these interpretations, and maintain that parallel side rails 11 do not represent a “platform” as that term is generally used. Further, claim 16

recites a “reflector element” as a separate element from a platform for supporting the reflector element. In fact, the word “element” alone indicates that the reflector element is a piece separate from the platform. Sick discloses mirrors 15 between side rails 11, but not a platform arranged to carry the mirrors in combination with other elements specified in Applicant’s claims. Solely for clarification, the claims have been amended herein to recite that the reflector element is separate from the platform, as the word “element” indicates. Sick does not teach or disclose such an arrangement of the reflector and the platform.

The Office Action further states that Sick discloses a frame structure 26 between which the platform extends. Applicant notes that the present claims recite a space frame, and element 26 of Sick is a ring-shaped end member, not a space frame and not part of a space frame.

In addition, the claims recite at least one curved transverse frame member to which the platform is secured and that the space frame comprises struts that connect opposite end regions of the curved transverse frame member to a spine member. Element 26 of Sick, which the Examiner has identified as a frame structure, does not contain struts connecting ends of a curved transverse frame member to a spine, nor does Sick disclose a spine.

The Office Action states that Sick does not specifically recite the claimed channel/roller arrangement, and Fungler is cited as teaching a solar collector including a channel/roller arrangement. However, as discussed above, Sick does not disclose a carrier structure which contains a reflector, a separate platform which supports the reflector, at least one curved transverse frame member to which the platform is secured, and a space frame which contains struts that connect opposite ends of the curved transverse frame member to a spine. Fungler does not provide features of the claimed invention missing from Sick’s disclosure. Fungler does not teach or suggest a curved transverse frame member or a space frame to which the platform is secured and that contains struts that connect the curved transverse frame member to a spine. Addition of rollers that track within a circumferential channel in Fungler to the carrier structures disclosed by Sick does not provide the claimed invention, because other elements of the claims are not disclosed in the cited references.

Claims 17 and 18 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over

Sick in view of Funger, and further in view of Butler (U.S. Patent No. 6,543,441). Applicant respectfully traverses this rejection.

The Office Action states that Sick discloses substantially all of the claimed limitations, but while the combination of Sick and Funger teaches a transmission of motion from the electric motor acting on the periphery of the circular ring 26 of Sick, it does not specifically recite imparting drive by one of the end members. Butler is cited as teaching a solar collector drive arrangement including hoop element 18, with surrounding fixed chain 30, end members 20, and motor 22 driving the hoop element via the end member.

As discussed above, Sick does not teach or suggest all of the elements of the claimed invention. In particular, Sick does not disclose a carrier structure which contains a reflector, a separate platform arranged for supporting the reflector, at least one curved transverse frame member, and a space frame to which the platform is secured and which contains struts that connect opposite ends of the curved transverse member to a spine. As discussed above, Funger does not supply these elements that are absent in Sick. Butler also does not supply these missing claim elements. Addition of a chain drive system in Butler to the carrier structure disclosed by Sick, and further in view of Funger, does not provide the claimed invention, because other elements of the claims are not disclosed in the cited references.

Further, as discussed in the interview with respect to claim 18, Butler does not teach or suggest a drive system wherein a link chain is affixed to an end member and extends around the end member to form a gear wheel that meshes with a sprocket for transferring drive from a motor to the link chain. As disclosed in the instant specification, link chain 22 extends around and is fixed to the channel section of one of the end members 14, to form a gear wheel that engages with a sprocket 20. (See paragraph [0032] and Figure 3.) In contrast, the chain in Butler is not fixed to the channel of the drive ring and does not form a gear wheel which engages a sprocket. In Butler, the chain engages a drive motor, but the chain in Butler does not form a gear wheel that engages a sprocket driven by the drive motor.

The art accepted definition of a “gear wheel” is “a wheel that meshes gear teeth with another part.” (See Dictionary of Engineering, McGraw Hill, second edition, page 246. A copy of this reference is attached herewith.) In the gear wheel taught in the instant application, the

gear teeth are open links in the chain that mesh with a sprocket driven by the electric motor to drive the carrier structure. Butler does not teach or suggest such a system. The chain 30 of Butler extends around each of the drive rings 18, but the chain is not affixed to Butler's drive ring, and the chain links are filled with teeth of the drive ring and not open to form a gear wheel that can engage with a sprocket. Thus, Butler does not teach the claimed chain drive system.

Claims 24 is rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Sick in view of Fungler. Applicant respectfully traverses this rejection.

The Office Action states that Sick does not specifically recite the range of curvature recited in claim 24, but that it would have been obvious to have incorporated the claimed range into the invention disclosed by Sick in view of Fungler, because discovering optimum or workable values or ranges involves only routine skill in the art.

As discussed above, the combination of Sick and Fungler does not teach or suggest all of the elements of the claimed invention. In particular, the cited references do not teach a carrier structure which contains a reflector, a separate platform arranged for supporting the reflector, at least one curved transverse frame member, and a space frame to which the platform is secured and which contains struts that connect opposite ends of the curved transverse member to a spine. Applicant does not necessarily agree that the range of curvature in claim 24 is merely an optimum or workable range discovered only by routine skill. However, even if this were the case, the other elements of the claim are not taught in the cited references.

Claims 26-28 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Sick in view of Fungler. Applicant respectfully traverses this rejection.

The Office Action states that the combination of Sick and Fungler teaches substantially all of the claimed limitations, except Sick discloses metal mirrors and does not specifically recite use of glass mirrors. The Office Action further states that Official Notice is given that the use of glass mirrors in solar concentrators is old and well known in the art and that it would have been obvious to a person of ordinary skill in the art to incorporate glass mirrors into the invention taught by Sick in view of Fungler.

As discussed above, the combination of Sick and Fungler does not teach or suggest all of the elements of the claimed invention. In particular, the cited references do not teach a carrier structure which contains a reflector, a separate platform arranged for supporting the reflector, at least one curved transverse frame member, and a space frame to which the platform is secured and which contains struts that connect opposite ends of the curved transverse member to a spine. Substitution of glass mirrors for the metal mirrors disclosed by Sick does not provide the claimed invention, because other elements of the claims are not disclosed in the cited references.

In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of all of the rejections under 35 U.S.C. §103(a).

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

The Office is hereby authorized to charge any additional fees that may be required by this paper, or to credit any overages, to Deposit Account No. 50-3229.

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Proof of Service by Electronic Filing System (EFS)

On May 3, 2010, I transmitted the documents named above by Electronic Filing System (EFS) of the United States Patent and Trademark Office of the addressee(s) as indicated above.

Date: May 3, 2010 Name: / Sherri Hale/ (Sherri Hale)